

WHAT IS CLAIMED IS:

- 1 1. A wireless terminal apparatus comprising:
2 a transport layer software module that communicates with a corresponding peer-
3 transport layer communication module in a remote network server;
4 a transceiver coupled to support the transmission of one or more transport layer
5 communication packets with said network server via a first air interface;
6 a software radio configuration module coupled to said transceiver;
7 whereby
8 (i) said terminal apparatus is operative to perform a data transaction with said
9 remote network server to identify to said server a geographical location associated with
10 said apparatus, to obtain at least one software module via said transceiver and to pass said
11 at least one software module to said software radio configuration module;
12 (ii) said software radio configuration module is operative to use said at least
13 one software module to load at least a portion of one air interface protocol layer to
14 instantiate a second air interface; and
15 (iii) said transceiver is operative support the transmission of one or more
16 transport layer communication packets with said remote server using said second air
17 interface.
- 1 2. The apparatus according to Claim 1 wherein said software module is
2 defined to execute over a Java virtual machine.
- 1 3. The apparatus according to Claim 1 wherein said software module is
2 defined as a resource in a resource description language, and said apparatus loads only
3 submodules needed to build said resource.
- 1 4. The apparatus according to Claim 1 wherein said transceiver comprises a
2 fixed portion for implementing said first air interface and a software radio portion for
3 implementing said second air interface.
- 1 5. The apparatus according to Claim 1 wherein said first and second air
2 interfaces correspond to at least a first and second physical layers, and at least said second
3 physical layer is implemented using a software radio architecture.

1 6. The apparatus according to Claim 4, wherein first physical layer
2 corresponds to an open-road transceiver physical layer and said second physical layer
3 corresponds to a toll-tag physical layer.

1 7. The apparatus according to Claim 1, wherein said first physical layer
2 corresponds to a wireless macrocellular network physical layer and said second physical
3 layer corresponds to a local-area wireless access physical layer.

1 8. The apparatus according to Claim 1, further comprising:
2 a global positioning system (GPS) receiver and a GPS processor, said GPS
3 processor coupled to said GPS receiver;

4 wherein

- 5 (i) said GPS processor uses a set of GPS signals received via said GPS
- 6 receiver to compute a representation of a geographical location;
- 7 (ii) said transceiver transmits said representation to said remote server; and
- 8 (iii) said software module defines a geographically-determined air interface
- 9 protocol.

1 9. The apparatus according to Claim 1, further comprising:
2 a local positioning system (LPS) receiver and a LPS processor, said LPS processor
3 coupled to said LPS receiver;

4 wherein

- 5 (iii) said LPS processor uses a set of LPS signals received via said LPS
- 6 receiver to compute a representation of a geographical location;
- 7 (iv) said transceiver transmits said representation to said remote server; and
- 8 (iii) said software module defines a geographically-determined air interface
- 9 protocol.

2014-03-20 14:55:50

Sub
a

10. A method of processing in a network server, comprising the steps of:
receiving from a remote client a representation of a geographical location, said
representation being transmitted at least partially via a transport layer over a first air
interface protocol;
sending to said remote client an indication of a second air interface protocol and a
set of parameters for use in accessing a wireless network access point using said second
air interface protocol;
sending to said wireless network access point an indication of said remote client
and a code requesting said wireless network access point to provide wireless access to
said remote client.

11. The method of Claim 10 wherein said set of parameters comprises a
software module defined to execute over a Java virtual machine, said software module
defining at least a portion of a software layer of said second air interface.

12. The method of Claim 11 wherein said software module is defined as a
resource in a resource description language, and said server transmits only submodules
needed to build said resource.

13. The method of Claim 10, further comprising:
selecting said wireless access point based on an optimization criterion, said
optimization criterion that is a function of at least one user preference.

14. The method of Claim 10, further comprising:
selecting said wireless access point from a pool of federated wireless access points
supplied by registered associates, whereby said selection is based at least in part on said
representation and an optimization criterion that is a function of at least one user
preference.

15. The method of Claim 10, whereby said act of receiving is performed using
a management session defined at the transport layer or above, the method further
comprising:

communicating at least one more transport layer packet via said management
session to said client, said management session routing at least partially through wireless
network access point.

16. A method of selling federated wireless access services with the assistance of associates, the federated wireless access services accessible to users of a merchant web site system which provides services for allowing users to electronically lease wireless access connectivity, the method comprising:

enrolling a plurality of associates using an on-line registration system, whereby each said associate indicates an air interface protocol used by a wireless access point system supplied by said associate;

receiving from a remote client a representation of a geographical location, said representation being transmitted using a first air interface protocol via a first wireless network access point;

sending to said remote client an indication of a second air interface protocol and a set of parameters for use in accessing a selected one of said wireless network access points using said second air interface protocol;

sending to said selected wireless network access point an indication of said remote client and a code requesting said selected wireless network access point to provide wireless access to said remote client.

17. The method of Claim 10 wherein said set of parameters comprises a software module defined to execute over a Java virtual machine, said software module defining at least a portion of a software layer of said second air interface.

18. The method of Claim 11 wherein said software module is defined as a resource in a resource description language, and said server transmits only submodules needed to build said resource.

19. The method of Claim 10, further comprising:
selecting said wireless access point based on an optimization criterion, said optimization criterion that is a function of at least one user preference.

20. The method of Claim 10, further comprising:
maintaining a first financial record used for billing said client; and
maintaining a second financial used for compensating the associate associated with said selected wireless network access point